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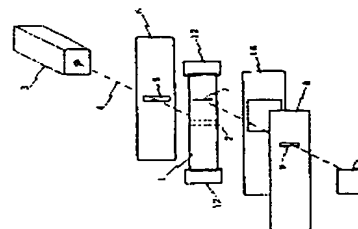
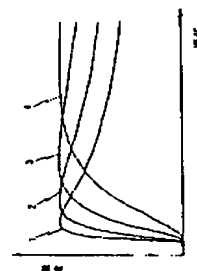
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APPLICATION NUMBER : 60189674

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TITLE : METHOD AND INSTRUMENT FOR
MEASURING THERMAL DIFFUSIVITY



ABSTRACT : PURPOSE: To measure thermal diffusivity in the surface direction of a thin film with high precision by heating the center part of a film instantaneously and comparing time variation in the temperature of a part distant from the heating point with logically calculated temperature variation.

CONSTITUTION: The center part 2 of the film-shaped sample 1 is heated instantaneously with a laser beam 4. Then, the variation in the temperature of a measuring point 7 at constant distance from the heated part 2 is measured by a photoelectric thermometer 11. A finite element method which is utilized for simulation is employed as to the time variation curve of the temperature to find a relational expression containing the diffusivity since the constant of proportion is so selected as to coincide with an actual temperature variation curve, so the heat diffusivity is calculated from the relational expression. Consequently, the heat diffusivity of the thin film sample which is not measured conventionally is found precisely.

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